CLAIMS

1. A device for the incremental measurement of displacement and position of two objects relatively movable in translation, comprising a scale connected to one of the two objects and consisting of a metal ribbon comprising a graduation formed by a longitudinal range of openings distributed with pitch p and which present, lengthwise along the scale, a dimension p/2, a detector connected to the other of said objects which explores the graduations on the scale, said detector comprising two parts situated on opposite sides of the scale, and a circuit for operating the detector measurement signal, characterized in that the detector comprises a transmitter (6) arranged on one side of the scale (1) and comprising at least one coil (8) powered by a monovoltage high-frequency pulsed electrical signal and designed to produce a high-frequency electromagnetic field concentrated on the scale, and a receiver (7) arranged on the opposite side of the scale (1), facing the transmitter (6) coil (8) and designed to produce a high-frequency chopped electrical signal by induction, which is amplitude-modulated by the scale (1) during displacement between a high amplitude, which occurs when an opening (4) on the scale is found between the coil (8) of the transmitter (6) and the receiver (7), and a low amplitude, which occurs when an interval (5) between two successive openings (4) on the scale (1) falls between the transmitter (6) coil (8) and the receiver (7).

2. Measurement device according to claim 1 characterized in that the receiver (7) comprises at least one coil (10) arranged facing the coil (8) of transmitter (6).

A1 3. Device according to claim 1 or 2, characterized in that the scale (1) consists of a stainless steel ribbon (3).

4. Device according to one of claims 2 or 3 characterized in that each coil (8, 10) comprises a winding arranged in a coil form (9) consisting of a ferrite pot core whose dimension, in the lengthwise direction of the scale (1) appreciably corresponds to the dimension (p/2) of the openings along the same direction.

5. Device according to any of claims 2 to 4, characterized in that each of the coils comprises at least two windings electrically mounted in series and arranged in a common coil form, in such a way that the two windings are spaced, lengthwise along the scale, a distance of n x p apart, where n is an integer.

6. Device according to any of claims 2 to 5, characterized in that each receiver (10) coil has means (15) arranged in parallel for tuning the transmission frequency and means (16) for establishing symmetry between the reception levels of the two coils (10).

7. Device according to claim 6, characterized in that the tuning means is a fixed capacitor (15) and the means for establishing symmetry is a variable capacitor (16).

A2 8. Device according to any of claims 2 to 7, characterized in that the transmitter (6) and the receiver (7) each comprise two coils (8, 10) offset

lengthwise along the scale (1) by n x p + p/2, whereas n is an integer, in such a way that the interval (5) between two successive openings (4) falls between a transmitter (6) coil (8) and the corresponding receiver (7) coil (10) whenever an opening (4) falls between the other transmitter (6) coil (8) and the corresponding receiver (7) coil (10).

9. Device according to claim 8, characterized in that the two coils (10) of the receiver (7) are each connected by an amplifier (17) in series with a rectifier (18) to a summing amplifier (19) that supplies, during longitudinal movement of the scale relative to the detector, an alternating sinusoidal output signal whose frequency is twice the modulation frequency of the signals induced (10) in the receiver (7) coils.

[Three pages of drawings follow. Bottom of each page reads: "REPLACEMENT SHEET

(RULE 26)".]